City of Norfolk
Building Construction Services Division Policy

Policy Admin-04-03

Special Requirements within Flood Zones

Construction within Flood Zones A3, A4, A6, and V7 is regulated by the Uniform Statewide Building Code, the International Residential Code, the City of Norfolk Zoning Code and referenced standards from the Federal Emergency Management Administration (FEMA). This policy clarifies the application of these requirements in the City of Norfolk.

Section R327 specifies the following requirements for floor resistant construction:

R327.1.5 Protection of mechanical and electrical systems.
New and replacement electrical equipment, heating, ventilating, air conditioning, plumbing connections, and other service equipment shall be located at or above the design flood elevation. Electrical wiring and outlets, switches, junction boxes and panels shall be elevated to or above the design flood elevation unless they conform to the provisions of the electrical part of this code for location of such items in wet locations. Duct systems shall not be installed below the design flood elevation.
Exception: Electrical systems, equipment and components, and heating, ventilating and air conditioning and plumbing appliances, plumbing fixtures, duct systems, and other service equipment are permitted to be located below the design flood elevation provided that they are designed

R327.2.2 Enclosed area below design flood elevation.
Enclosed areas, including crawl spaces, that are below the design flood elevation shall:
1. Be used solely or parking of vehicles, building access or storage.
2. Be provided with flood openings which shall meet the following criteria:
> *2.1. There shall be a minimum of two openings on different sides of each enclosed area; if a building has more than one enclosed area below the design flood elevation, each area shall have openings on exterior walls.*
> *2.2. The total net area of all openings shall be at least 1 square inch for each square foot (275 mm for each square meter) of enclosed area.*
> *2.3. The bottom of each opening shall be 1 foot (305 mm) or less above the adjacent ground level.*
> *2.4. Openings shall be at least 3 inches (76 mm) in diameter.*
> *2.5. Any louvers, screens or other opening covers shall allow the automatic flow of floodwaters into and out of the enclosed area.*
> *2.6. Openings installed in doors and windows, that meet requirements 2.1 through 2.5, are acceptable; however, doors and windows without installed openings do not meet the requirements of this section.*

This means that enclosed areas below flood elevation are permitted if they are crawl spaces, garages, building access, or storage only. No habitable use is permitted.

R327.3.3 Walls below design flood elevation. *Walls and partitions are permitted below the elevated floor, provided that such walls and partitions are not part of the structural support of the building or structure and:*
1. Are constructed with insect screening or open lattice.

2. Designed to break away or collapse without causing collapse, displacement or other structural damage to the elevated portion of the building or supporting foundation system. Such walls, framing and connections shall have a design safe loading resistance of not less than 10 pounds per square foot (0.48 kN/m2) and no more than 20 pounds per square foot (0.96 kN/m2); or

3. Where wind loading values of this code exceed 20 pounds per square foot (0.96 kN/m2), a registered design professional shall certify the following:

> *3.1. Collapse of walls and partitions below the design flood elevation shall result from a water load less than that which would occur during the design flood.*

> *3.2. The elevated portion of the building and supporting foundation system shall not be subject to collapse, displacement, or other structural damage due to the effects of wind and flood loads acting simultaneously on all building components (structural and nonstructural).Water loading values used shall be those associated with the design flood. Wind loading values used shall be those required by this code.*